

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A biostimulation method for reducing or eliminating pathogens ~~pathogens, such as bacteria, fungi or viruses, in oral cavity tissue~~ located in the oral cavity or in tissue associated with the oral cavity, comprising:

inserting at least a portion of a phototherapy applicator into the oral cavity;

irradiating an area of tissue in the oral cavity with radiation from the phototherapy applicator, the radiation having at least one selected wavelength component corresponding to the absorption spectrum of an endogenous light acceptor in the oral cavity or in tissue associated with the oral cavity, the endogenous light acceptor absorbing radiation having the at least one selected wavelength;

wherein the area of tissue is irradiated so as to cause a reduction in the number of the pathogens within the oral cavity without application of an exogenous photosensitizer during the biostimulation method.

2. (Previously presented) The method of claim 1, wherein said light acceptor is located within the pathogens being irradiated.

3. (Previously presented) The method of claim 1, wherein said light acceptor is located within the tissue being irradiated.

4. (Cancelled)

5. (Original) The method of claim 1, further comprising selecting a radiation power administered during each of said treatment sessions to be less than about 10 W.

6. (Previously presented) The method of claim 1, further comprising selecting a time duration of each of said treatment sessions to be in a range of about 10 s to about 1000 s.

7. (Cancelled)

8. (Currently amended) The method of claim 1, wherein the step of irradiating further comprises sufficiently irradiating to achieve results in a biostimulative effect that includes at least one of prevention and improvement in at least one of oral mucus inflammatory disease, tongue disease, recovery from inflammation of salivary glands and small sublingual ducts, and pain reduction in oral tissue, sore throat, angina, acute or chronic tonsillitis, sinusitis recovery, recovery of inflammations of vocal cords and cancer prevention of tissues accessible from the oral cavity.

9. (Previously presented) The method of claim 1, wherein the light acceptor is at least one light acceptor from the group of porphyrins, cytochromes, molecular oxygen, coproporphyrins, cytochroms, cytogen, cytochromoxidase, cytoporphyrin, protoporphyrin IX, and bilirubin.

10. (Currently amended) The method of claim 1, wherein the light acceptor is responsive to ~~electromagnetic radiation other than~~ visible light.

11. (Cancelled)

12. (Cancelled)

13. (Previously presented) The method of claim 1, further comprising selecting a radiation power administered to be less than about 10 W.

14. (Cancelled)

15. (Original) The method of claim 1, further comprising selecting said wavelength component to be in a range of about 0.38 to about 0.6 microns so as to cause controlled heating oral cavity tissue at a depth below mucosal lining.

16. (Original) The method of claim 1, further comprising selecting said wavelength component to be in a range of about 0.8 microns to about 100 microns so as to cause controlled heating of oral cavity tissue at a depth below the mucosal lining.

17. (Previously presented) The method of claim 1, further comprising selecting said wavelength component to be in a range of about 0.28 microns to about 1.4 microns.

18. (Previously presented) A biostimulation method, comprising:

irradiating at least a portion of a subject's oral cavity with radiation having at least one selected wavelength component so as to cause a desired biostimulating effect;

irradiating at least a portion of a subject's oral cavity with radiation having wavelength components within a first bandwidth at a first selected time during the subject's circadian cycle, and

irradiating at least a portion of the subject's oral cavity with radiation having wavelength components within a second bandwidth at a second selected time during the subject's circadian cycle.

19. (Previously presented) The method of claim 1, further comprising detecting diagnostic signals from said area of tissue to monitor treatment results.

20. (Currently amended) A method of treating a subject's blood, comprising:

inserting at least a portion of a phototherapy device into an oral cavity;

irradiating at least a portion of the tissue within the oral cavity with radiation having at least one selected wavelength range to irradiate blood flowing in vasculature of the oral cavity, the wavelength range being capable of being accepted by an endogenous light acceptor within the tissue, the endogenous light acceptor absorbing sufficient radiation from the at least one selected wavelength range to treat the blood.

21. (Cancelled)

22. (Previously presented) The method of claim 20, further comprising selecting said wavelength range to be in a range of about 280 nm to about 1.8 microns.
23. (Original) The method of claim 20, further comprising selecting said radiation to be in a range of about 280 nm to about 400 nm.
24. (Original) The method of claim 20, further comprising selecting said radiation to be in a range of about 300 nm to about 320 nm.
25. (Cancelled)
26. (Currently amended) The method of claim 20 ~~25~~, further comprising irradiating the oral cavity with said radiation during separate treatment sessions wherein said radiation power is in a range of about 1 mW to about 1 W.
27. (Currently amended) The method of claim 20, wherein the step of ~~exposing~~ irradiating further comprises exposing substantially an entire volume of the subject's blood to said radiation over one or more treatment cycles.
28. (Currently amended) The method of claim 20, wherein ~~said radiation~~ the step of irradiating further comprises sufficiently irradiating to kill ~~causes killing of~~ pathogens in the blood.
29. (Previously presented) The method of claim 28, wherein said pathogens are any of bacteria, fungi and viruses.
30. (Previously presented) The method of claim 20, wherein the light acceptor is at least one light acceptor from the group of bilirubin, porphyrins, cytochromes, molecular oxygen, coproporphyrins, cytochroms, cytogen, cytochromoxidase, cytoporphyrin, and protoporphyrin IX.

31. (Cancelled)

32. (Cancelled)

33. (Cancelled)

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Cancelled)

38. (Cancelled)

39. (Cancelled)

40. (Cancelled)

41. (Cancelled)

42. (Cancelled)

43. (Cancelled)

44. (Cancelled)

45. (Cancelled)

46. (Cancelled)

47. (Cancelled)

48. (Previously presented) The method of claim 1, wherein the radiation has a power density of 1-1000 mW/cm² and a one-day dose of 0.06-30 J/cm².

49. (Previously presented) The method of claim 1, further comprising selecting said wavelength range to be in a range of about 280 nm to about 1.8 microns.

50. (Previously presented) The method of claim 20, wherein the light acceptor is located within blood in the tissue.

51. (Previously presented) The method of claim 20, wherein the light acceptor is located within pathogens contained within blood in the tissue.